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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/707,162

11/24/2003

Charles Leu

1161

25859

7590

06/28/2005

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FOXCONN INTERNATIONAL, INC.  
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EXAMINER
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CONNELLY CUSHWA, MICHELLE R

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/707,162

Applicant(s)

LEU ET AL.

Examiner

Michelle R. Connelly-Cushwa

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-14 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1103</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Priority***

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Taiwan on November 22, 2002. It is noted, however, that applicant has not filed a certified copy of the Taiwan Application No. 91134012 as required by 35 U.S.C. 119(b).

### ***Information Disclosure Statement***

The prior art documents submitted by applicant in the Information Disclosure Statement filed on November 24, 2003 have all been considered and made of record (note the attached copy of form PTO-1449).

### ***Drawings***

Four (4) sheets of formal drawings were filed on November 24, 2003.

**The drawings are objected to under 37 CFR 1.83(a).** The drawings must show every feature of the invention specified in the claims. Therefore, the light guide module "wherein a density of the scattering balls becomes greater as a distance from the incident surface becomes greater", as claimed in claim 6, and the "dot-web located on a surface opposite to the light-incident surface", as claimed in claim 8, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

Art Unit: 2874

number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

**Claim 8 is objected to because of the following informalities:**

Regarding claim 8; --is—should be inserted after "dot-web" in line 2 of claim 8.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2874

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1, 4, 7 and 9-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki (JP 10-197725 A).**

Regarding claims 1 and 11; Suzuki discloses a light guide module for a backlight module in Figure 8, comprising:

- a light guide pipe (2) having a light emitting surface;
- a light incident surface (3) orthogonal to the light emitting surface;
- a light diffusion arrangement (18) deployed on the light emitting surface, the light diffusion arrangement including organic scattering balls (21) homogeneously mixed within a bonding agent (see the abstract and paragraph [0047]; the diffusion plate, 18, is constituted by forming a light diffusion part, 20, which is formed of transparent resin containing uniformly dispersed scatter beads, 21, as a light scattering material); and
- at least a light source (1) arranged adjacent to the light incident surface (3);
- wherein the light incident surface is angled at 90 degrees with regard to the light emitting surface; and
- wherein the light diffusion arrangement is integrally formed on the light emitting surface by coating the surface.

Regarding claim 4; the bonding agent is an acrylic bonding agent (see paragraph [0046]).

Regarding claims 7 and 12; the light guide (2) further includes a dot-web (light scattering pattern, 6) made from highly refractive diffusion material, and formed and located on a surface of the light pipe module opposite to the light emitting surface.

Regarding claim 9; the density of the dot-web (6) increases as a distance from the light incident surface.

Regarding claim 10; the light incident surface and the light emitting surface are arranged to one another.

Regarding claim 13; Suzuki discloses a method for making a light guide module, comprising the steps of:

- providing a light pipe (2) having a light pipe emitting surface;
- providing organic scattering balls (21) mixed with bonding agent to form a mixture; and
- spreading the mixture over the light emitting surface of the light guide (2; see paragraph [0047]).

Regarding claim 14; the method further comprises the step of forming a dot-web arrangement (6) over a different surface of the light pipe (2).

**Claims 1, 2, 4, 5, 7 and 10-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Azuma (US 6,625,379 B1).**

Regarding claims 1, 5 and 11; Azuma discloses a light guide module for a backlight module, comprising:

Art Unit: 2874

- a light guide pipe (12) module having a light emitting surface (P);
- a light incident surface (the side surfaces adjacent lamps, 8) orthogonal to the light emitting surface (P), wherein the light incident surface is angled at 90 degrees with regard to the light emitting surface;
- a light diffusion arrangement integrally formed and deployed on the light emitting surface (P), the light diffusion arrangement including organic scattering balls (fine particles of spherical shape that are organic; see column 6, lines 35-65) homogeneously mixed within a bonding agent (the transparent resin that 12 is molded from; see column 6, lines 36-39, and column 13, lines 20-22); and
- at least a light source (lamps, 8) arranged adjacent the light incident surface .

The light guide pipe, 12, is a light-conducting plate that contains scattering balls in the form of fine particles that are spherical and organic (see column 6, lines 35-65, and column 13, lines 20-45). Since the light-conducting plate (12) is formed with the scattering balls uniformly throughout the plate, the light emitting surface (P) of the plate has a diffusion arrangement deployed on the light emitting surface, wherein the scattering balls are homogeneously distributed over the light emitting surface.

Regarding claim 2; the grain size of the organic scattering balls falls within the range from 10 to 15 micrometers (see column 6, lines 48-50).

Regarding claim 4; the bonding agent (the resin forming the light-conducting plate) may be an acrylic bonding agent (methacrylic resin; see column 3, lines 42-53).

Regarding claims 7 and 12; the light guide may further include a dot-web (a fine pattern that is printed in the light reflecting plane) located on a surface opposite to the light emitting surface (P; see column 8, lines 7-13) to form a reflecting layer for making incident light be emitted as bright and uniform planar light, which is accomplished by having the dot-web be formed of a highly refractive material.

Regarding claim 10; the light incident surface (the surface adjacent the light source, 8) and the light emitting surface (P) are arranged to one another.

**Claims 1-3, 5 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Graf et al. (US 2004/0066645 A1).**

Regarding claim 1; Graf et al. discloses a light guide module for a backlight module in Figure 1, comprising:

- a light guide pipe (104) having a light emitting surface;
- a light incident surface orthogonal to the light emitting surface;
- a light diffusion arrangement (114) deployed on the light emitting surface, the light diffusion arrangement including organic scattering balls (see paragraphs [0019]-[0020]) homogeneously mixed within a bonding agent.

Regarding claim 2; a grain size of the organic scattering balls may be 10 micrometers, which falls within the range of 10-15 micrometers (see paragraph [0019]).



Regarding claim 3; the material for making the organic scattering balls may be polymethyl methacrylate (see paragraph [0020]).

Regarding claim 5; the scattering balls are homogeneously distributed over the light emitting surface.

Regarding claim 10; the light incident surface and the light emitting surface are arranged to one another.

**Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Ohno et al. (US 6,825,243 B1).**

Regarding claim 1; Ohno et al. discloses a light guide module for a backlight module in Figure 1, comprising:

- a light guide pipe (12) having a light emitting surface;
- a light incident surface orthogonal to the light emitting surface;
- a light diffusion arrangement (13, 15) deployed on the light emitting surface, the light diffusion arrangement including organic scattering balls (see column 6, line 38, through column 7, line 4) homogeneously mixed within a bonding agent.

Regarding claim 2; a grain size of the organic scattering balls may be 10 micrometers, which falls within the range of 10-15 micrometers (see column 6, line 38, through column 7, line 4).

Regarding claim 3; the material for making the organic scattering balls may be polymethyl methacrylate (PMMA, see column 6, lines 38-41).

Regarding claim 4; the bonding agent is an acrylic bonding agent (see column 6, lines 15-37).

Regarding claim 5; the scattering balls are homogeneously distributed over the light emitting surface.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno et al. (US 6,825,243 B2) in view of Kashima et al. (US 5,521,797).**

Regarding claim 6; Ohno et al. discloses all of the limitations of claim 6, as applied above, except for a density of the scattering balls becoming greater as distance from the incident surface becomes greater. Kashima et al. teaches that for a light guide module (see Figures 1 and 2) having a light guide (1) and light scattering areas (6) formed on a surface of the light guide from light diffusing beads dispersed in a light-transmissive substance (see column 4, lines 42-67), it is preferred that the coverage with the light diffusing element increases progressively with the increasing distance from the light source for optimal light diffusion. Therefore, one of ordinary skill in the art would have found it obvious to have a density of the scattering balls become greater as distance from the incident surface becomes greater for optimal light diffusion.

***Allowable Subject Matter***

Art Unit: 2874

Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art cited on attached form PTO-892 is the most relevant prior art known. However, the invention of claim 8 distinguishes over the prior art of record for the following reasons.

Regarding claim 8; the claim is allowable over the prior art of record because none of the references either alone or in combination disclose or render obvious a light guide module as defined in claim 8, wherein the dot-web is located on a surface opposite to the light incident surface in combination with the base and intervening claims.

Hence, there is no reason or motivation for one of ordinary skill in the art to use the prior art of record to make the invention of claim 8.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Nakamura (JP 08-146418 A) discloses a film for improvement in image quality for LCDs, the film comprising spherical light-diffusing particles in a transparent material.

Any inquiry concerning the merits of this communication should be directed to Examiner Michelle R. Connelly-Cushwa at telephone number (571) 272-2345. The examiner can normally be reached 9:00 AM to 7:00 PM, Monday-Thursday.

Art Unit: 2874

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney B. Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general or clerical nature should be directed to the Technology Center 2800 receptionist at telephone number (571) 272-1562.

  
Michelle R. Connelly-Cushwa  
Patent Examiner  
June 23, 2005